

REMARKS

Claims 1, 4-21 and 32-39 are currently pending in the above-identified application. Claims 32-39 have been withdrawn from consideration. Claims 22, 24-27 and 29-31 have been canceled. Applicant respectfully reserves the right to claim the subject matter of the canceled claims in this or any other application. Applicant respectfully requests reconsideration in light of the foregoing amendments and following remarks.

The drawings have been objected to as failing to comply with 37 C.F.R. 1.84. The paragraph beginning on line 4, page 7 has been replaced and now refers to reference character 24_b, which is shown in the figures. Thus, applicant respectfully submits the drawings are in full compliance with 37 C.F.R. 1.84.

Claims 1, 4-7 and 10-14 stand rejected under 35 U.S.C. §102(e) as being anticipated by Fukui et al. Applicant respectfully traverses this rejection. Applicant respectfully disagrees with the contention that the element (6) disclosed in Fukui et al. is a flowable adhesive material as recited in the claims. Fukui et al. teaches a thermo-compression sheet 6, which is not flowable. The ability to flow is generally considered a fluid or semi-fluid condition. A thermo-compression sheet, such as the thermo-compression sheet 6, is a solid, and hence not flowable as recited in independent claim 1.

Further, Fukui et al. addresses the issue of inhibiting the presence of an adhesive material outside the perimeter of semiconductor chips mounted on a substrate in a wholly different way than the claimed invention. First, Fukui et al. utilizes a solid adhering material, namely the thermo-compression sheet 6. Second, and significantly, Fukui et al. teaches putting the sheet 6 on the wafer and then dicing the wafer into individual

semiconductor chips (Column 9, lines 22-26). Hence, the sheet 6 is cut to the size of the semiconductor chip. Pressure and temperature are then used to adhere the chips to the substrate.

Thus, if the thermo-compression sheet 6 was a “flowable adhesive material,” then the pressure and/or temperature would cause the sheet 6 to extend beyond the perimeter of the chips. Therefore, if the sheet 6 was flowable (it is not), Fukui et al. fails to teach or suggest “a flowable adhesive material which does not extend past a perimeter of said at least one semiconductor die” as recited in claim 1. If the sheet 6 is not flowable (and it is not flowable), then again Fukui et al. fails to teach or suggest “a flowable adhesive material which does not extend past a perimeter of said at least one semiconductor die” as recited in claim 1. Claims 4-14 should be allowable along with claim 1 and for other reasons.

With respect to the suggestion in the Advisory Action that Fukui et al. discloses a flowable material (column 9, lines 15-17), applicant respectfully submits that Fukui et al. is describing the use of a paste to be applied onto a circuit board prior to the first semiconductor chip being mounted on the board. Further, there is no teaching or suggestion in Fukui et al. that this paste mounted on the circuit board would be so circumscribed that it would not extend past the perimeter of the semiconductor chip after the chip has been mounted on the board.

Claims 15-19 and 21 stand rejected under 35 U.S.C. §103 as being unpatentable over Fukui et al. in view of Lo et al. Applicant respectfully traverses this rejection. Fukui et al. fails to teach or suggest “a flowable adhesive material which does not

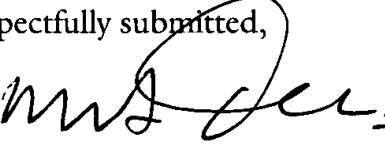
extend past a perimeter of said at least one semiconductor die," which is an important feature of the invention of claim 15. Lo et al. provides no relevant disclosure regarding adhesive material. Claims 16-21 should be allowable along with claim 15 and for other reasons.

For at least the reasons provided above, applicant believes that each of the presently pending claims is in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue.

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Respectfully submitted,

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

The paragraph beginning on page 7, line 4 has been replaced and claims 22, 24-27 and 29-31 have been canceled.

Paragraph beginning on Page 7, line 4:

Figures 4-5 show the assembly 200 after a second die 30 with electrical contact areas 38 on the die's top surface 36 is pressed against the second adhesive layer 22_b located on the top surface 26 of the first die 20. A cavity 25 is formed between the dies 20 and 30 and is characterized by a distance D between the perimeter 34 of the second adhesive layer 22_b and the perimeter 39 of the second die 30. The distance D may be a regular or irregular distance around the periphery of the adhesive layer 22_b. It is to be understood that formation of cavity 25 is not essential, what is important is that adhesive layer 22_b does not extend beyond the perimeter 39 of the second die 30 such that no adhesive fillet 24_b is formed.

Claims 22, 24-27 and 29-31 have been canceled.